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wherein R₃ and R₄ are independently selected from the group consisting of hydrogen, halogen, hydroxyl, nitro, C₁-C₆ alkyl, C₁-C₆ alkoxy; carboxy; C₁-C₆ trihaloalkyl; and cyano; and

Z is selected from the group consisting of substituted and unsubstituted aryl; the method comprising:

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(a) reacting a compound of the formula IV

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z c=c H H (IV)

wherein X and Z are so defined;

with 4-sulfamyl phenyl hydrazine or salt thereof; and

 \mathcal{PI} (b) isolating a compound according to formula I from the reaction products.

Remarks

Claims 1-5 and 8-50 are pending in the application. Reconsideration is requested in view of the above changes and the following remarks.

The amendments to claims 1 and 22 are supported by page 6, lines 8-17. The amendment to claim 22 is supported by page 6, lines 8-10. The remaining claim amendments are supported by the original claims.

Claims 27-50 are new. The new claims are supported in the specification as follows:

50: original claim 22;

27: original claim 1;

28: original claim 9;

29: original claim 10;

30: original claim 1;

31-34: p. 10, lines 3-5;

35-37: p. 10, lines 6-9;

38-40: p. 18, lines 20-21; 41: p. 19, lines 20-22;

42: p. 20, lines 11-12

43: original claim 2;

44: original claim 3;

45: original claim 4;

46: original claim 5;

47: original claim 6;

48: original claim 7;

49: original claim 26.

X

The misspelling of benzothiazolyl has been corrected in the specification and claims. The dependency error in claim 4 has been repaired. The designation of the reactant in claim 25 has been corrected from "II" to now read "IV".

The specification has been amended at page 6 to delete 8-indolyl, 8-benzothienyl and 8-benzofuryl. These radicals do not exist, and were listed in the specification by error.

Allowable claim 13 has been rewritten in independent form.

Response to Section 102, 103
Rejection over Cuberes-Altisent et al.

Claims 1, 5, 17-19, 22 and 25 have been rejected as being allegedly anticipated by and obvious over Cuberes-Altisent *et al.* Claim 1 has been amended to indicate that Z is *other than phenyl.* The corresponding group in the disclosure of Cuberes-Altisent is limited to phenyl. There is no teaching in the reference of any non-phenyl radical at the same position. Hence, claim 1, as amended, is allowable over the asserted reference.

Claim 5 depends from claim 1, and is therefore similarly allowable.

Claims 17-19 have been amended to depend only from allowed claims 15 and 16. They are therefore allowable.

Claims 22 has been amended to indicate that Z is *other than phenyl*. There is no teaching of any non-phenyl radical at the same position in Cuberes-Altisent. Hence, claim 22, as amended, is allowable.

Claim 25, now dependent from new claim 50, defines a method wherein X is optionally substituted phenyl. New claim 50 corresponds to allowable original claim 24, rewritten in independent form. Claim 50, and its dependent claim 25, are therefore allowable.

Response to Section 102
Rejection over Faidallah et al.

Claims 1 and 6-10 have been rejected as being allegedly anticipated by Faidallah et al. Claim 1, as amended, is directed to compounds where Z is other than phenyl.



The corresponding group in the disclosure of Faidallah *et al.* is limited to phenyl. There is no teaching of any non-phenyl radical at the same position. Hence, claim 1 as amended is allowable over the asserted reference.

Claims 6, 7, 9 and 10 depend from claim 1, and are therefore similarly allowable. Claim 8 has been amended to depend from new claim 50, which corresponds to allowable original claim 24 rewritten in independent form. Claim 8 is thus allowable.

Response to Section 102 Rejection over Makki et al.

Claims 1-3, 5-8 and 11 have been rejected as being allegedly anticipated by Makki *et al.* Makki *et al.* disclose a compound wherein the group corresponding to applicants' X is unsubstituted phenyl or 4-methoxyphenyl. Claim 1, as amended, provides that X is trihalomethyl or C1-C6 alkyl. There is no teaching by Makki *et al.* of any group other than phenyl or 4-methoxyphenyl at this position. Hence, claim 1 as amended is allowable over the asserted reference.

Claims 1-3 and 5-7 and 11 depend from claim 1, and are therefore similarly allowable. Claims 8 and 11 depend from new claim 50, which is believed in condition for allowance for the reasons discussed above.

New Claims

The new claims presented herein are patentable over the asserted references.

New claim 50 corresponds to allowable claim 24, rewritten in independent form.

New claim 28 defines a compound wherein X is optionally substituted phenyl, a feature missing from Cuberes-Altisent. Thus claim 27 distinguishes over Cuberes-Altisent. Faidallah *et al.* describes compounds in which the substitution on the phenyl ring corresponding to applicants' X is 4-methyl or 4-methoxy, and no other substituents. The substituents on the claimed phenyl group, as defined in claim 27, do not include alkyl or alkoxy. Thus claim 27 distinguishes over Faidallah *et al.* Since the definition of Z in claim 27 does not include thienyl, the claim also distinguishes over Makki *et al.*, which requires thienyl in this position. Claim 27 is therefore allowable over the prior art of record.



New claim 28 defines a compound wherein X is optionally substituted phenyl, a feature missing from Cuberes-Altisent. Thus claim 28 distinguishes over Cuberes-Altisent. Z, as defined in claim 28, includes phenyl; phenyl monosubstituted with halogen, hydroxyl, nitro or carboxy; di- and tri-substituted phenyl; and certain heteroaryl radicals. In Faidallah *et al.*, the range of substitution for the corresponding phenyl is limited to mono-substitution at the 4-position with methyl and methoxy. Thus claim 28 distinguishes over Faidallah *et al.* Since the definition of Z in claim 28 does not include thienyl, the claim also distinguishes over Makki *et al.*, which requires thienyl in the same position. Claim 28 is therefore allowable.

New claims 29-40 depend directly or indirectly from claims 1, 27 or 28. In view of the allowability of the base claims, these dependent claims are also allowable.

New claims 41 and 42 are directed to subject matter indicated as being allowable. Claim 41 corresponds to the method of allowable claim 20, practiced with a compound of the scope of original unamended claim 1. Claim 42 corresponds to the method of allowable claim 21, practiced with a compound of the scope of original unamended claim 1. These claims, and claims 43-48 dependent thereon, are thus allowable.

New claim 49 corresponds to the isomer of allowable claim 26, practiced with a compound of the scope of original unamended claim 1. Claim 49 is therefore allowable. Summary

For the reasons stated above, the claims remaining in the application are believed in condition for allowance. An early action toward that end is earnestly solicited.



- 16 -

Respectfully submitted,

E. PREMKUMAR REDDY et al.

A. Monaco

BY: -

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1. (amended) A compound of the formula:

wherein:

X is selected from the group consisting of trihalomethyl[,] and C_1 - C_6 alkyl;[, and a group of formula II:

$$\begin{array}{c|c} R_3 \\ \hline R_4 \end{array} \tag{II}$$

wherein:

 R_3 and R_4 are independently selected from the group consisting of hydrogen; halogen; hydroxyl; nitro; C_1 - C_6 alkyl; C_1 - C_6 alkoxy; carboxy; C_1 - C_6 trihaloalkyl; and cyano;]

Z is selected from the group consisting of substituted and unsubstituted aryl other than substituted and unsubstituted phenyl; or a pharmaceutically acceptable salt thereof.

8. (amended) A compound according to claim [7] <u>27</u> wherein Z is selected from the group consisting of unsubstituted phenyl; and mono-, di- and tri-substituted phenyl.

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- 11. (amended) A compound according to claim [7] <u>27</u> wherein Z is substituted or unsubstituted indolyl, furyl, thienyl, pyridyl or benzofuryl; or a pharmaceutically acceptable salt thereof.
- 12. (amended) A compound according to claim 11 wherein [11] Z is substituted or unsubstituted 3-indolyl; or a pharmaceutically acceptable salt thereof.
- 13. (amended) The compound [according to claim 1 which is] 1-(4-sulfamylphenyl)-3-trifluoromethyl-5-phenyl-2-pyrazoline; or a pharmaceutically acceptable salt thereof.
- 17. (amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound according to [any of claims 1,] <u>claim</u> 15 or 16, or a pharmaceutically acceptable salt thereof.
- 18. (amended) A method for treating a cyclooxygenase-mediated disorder comprising administering to a patient in need of such treatment an effective amount of a compound according to [any of claims 1,] <u>claim</u> 15 or 16, or a pharmaceutically acceptable salt thereof.
- 19. (amended) A method for treating inflammation or an inflamation-mediated disorder comprising administering to a subject in need of such treatment an effective amount of a compound according to [any of claims 1,] <u>claim</u> 15 or 16, or a pharmaceutically acceptable salt thereof.
- 20. (amended) A method for treating a neoplasia comprising administering to a subject in need of such treatment an effective amount of a compound



according to [any of claims 1,] <u>claim</u> 15 or 16, or a pharmaceutically acceptable salt thereof.

- 21. (amended) A method for treating an angiogenesis-mediated disorder administering to a subject in need of such treatment an effective amount of a compound according to [any of claims 1,] claim 15 or 16, or a pharmaceutically acceptable salt thereof.
 - 22. (amended) A method for producing a compound of formula I

$$Z$$
 N
 (I)
 SO_2NH_2

wherein:

the group X is selected from the group consisting of trihalomethyl, C_1 - C_6 alkyl, and a radical of formula II:

wherein:

wherein R_3 and R_4 are independently selected from the group consisting of hydrogen, halogen, hydroxyl, nitro, C_1 - C_6 alkyl, C_1 - C_6 alkoxy; carboxy; C_1 - C_6 trihaloalkyl; and cyano; and

Z is selected from the group consisting of substituted and unsubstituted aryl, other than substituted and unsubstituted phenyl;

the method comprising:

A

(a) reacting a compound of the formula IV

wherein X and Z are so defined; with 4-sulfamyl phenyl hydrazine or salt thereof; and

- (b) isolating a compound according to formula I from the reaction products.
- 25. (amended) A method according to claim [22] <u>50</u> wherein the group X in the reactant compound of formula [II] <u>IV</u> is [selected from the group consisting of trifluoromethyl, C₁-C₆ alkyl, and] a radical of formula II:

wherein:

wherein R_3 and R_4 are independently selected from the group consisting of hydrogen, halogen, hydroxyl, nitro, C_1 - C_6 alkyl, C_1 - C_6 alkoxy; and carboxy.

26. (amended) An isolated optical isomer of a compound according to [any of claims 1,] claim 15 or 16, or a pharmaceutically acceptable salt thereof.

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Appendix B: Specification Mark-up

According to another embodiment, Z is an aryl group other than phenyl or substituted phenyl, and is particularly substituted or unsubstituted heteroaryl. Such heteroaryl radicals include, for example, pyridyl, particularly 2-, 3- and 4-pyridyl; thienyl, particularly 2- and 3-thienyl; furyl, particularly 2- and 3-furyl; indolyl, particularly 3-, 4-, 5-, 6-, and 7[- and 8]-indolyl; benzothienyl, particularly 3-, 4-, 5-, 6-, and 7-[and 8-]benzothienyl; benzofuryl, particularly 3-, 4-, 5-, 6-, and 7-[and 8] benzofuryl; imidazolyl, particularly 2- and 5-imidazolyl; pyrazolyl, particularly 3- and 5-pyrazolyl; 2-thiazolyl; [2-benzothazolyl] 2-benzothiazolyl; quinolinyl, particularly 2-, 3- and 4-quinolinyl; and 4-(2-benzyloxazolyl). Representative preferred substituted heteroaryl groups include 6-methyl-2-pyridyl, 5-halo-2-thienyl, 5-methyl-2-thienyl, 5-halo-2-furyl, 5-halo-3-furyl, 2,5-dimethyl-3-thienyl and 2,5-dimethyl-3-furyl.